



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,791	09/26/2003	Hernes Jacobs	081468-0306107	1480
909	7590	02/03/2005	EXAMINER	
PILLSBURY WINTHROP, LLP			MATHEWS, ALAN A	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			2851	

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/670,791

Applicant(s)

JACOBS ET AL

Examiner

Alan A. Mathews

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24-26 is/are allowed.
- 6) ☒ Claim(s) 1,2,6,8,9,23,27,29 and 30 is/are rejected.
- 7) ☒ Claim(s) 3-5,7,10-22,28 and 31 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/26/03 & 4/27/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to because figures 8, 9, 11, 12, and 14 have large portions of solid black, making it difficult to determine where the lines for some of the numerals lead to (or what elements are designated by the lines). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 6, 8, 9, 23, 27, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwan et al. (U. S. Patent Application Publication No 2001/0006762, cited on Applicant's PTO-1449) in view of either Ishigame (U. S. Patent No. 6,499,936) or Punnekanti et al. (U. S. Patent Application Publication No. 2003/0202865). Kwan et al. '762 discloses in figure 1 an illuminator LA and Ex. Element WT is the substrate table and MT is the patterning device support for holding the patterning device MA (mask). Element PL is the projection system and element BP is the base frame. Figures 9 and 10 and page 7, paragraph #s 126-132 disclose a balance mass 2 supported by and movable relative to a base frame BP. Figure 3 shows how the balance mass 2 is coupled to the substrate table WT. Figures 9 and 10 and paragraph # 126 disclose a supporting member 337a and 337c and a common pivot 337d. Drive 337 in figures 9 and 10 is used as an alternative drive to the drive 336 in a previous embodiment shown in figure 7 (figure 7 shows a better view of the spatial relationship between balanced mass 2, drive 336, and base frame BP). Paragraph # 126 further discloses that drive mechanism 337 is a "double scara mechanism", which consists of two crank-con'rod mechanisms connecting the end of crank 337a to a common pivot point 337d. Although figure 10 appears to show that elements 337a and

Art Unit: 2851

337c have two pivot points, the specification only recites the common pivot point 337d.

Ishigame discloses in figure 2 and column 2, lines 8 and 9, the use of “scarab” types of arms which have at least two pivots. Ishigame further discloses in figure 3 and column 3, lines 18-22, having SCARA robots having arms with at least two pivots. Punnekanti et al. discloses figure 1b and paragraph # 15 using a SCARA arm type handler 27 having arms with at least two pivots. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide Kwan et al. '762 with at least two pivots for its arms 337a and 337c in view of either Ishigame or Punnekanti et al. for the purpose of improving the manipulation of the substrate table.

Allowable Subject Matter

4. Claims 24-26 are allowed. Claims 3-5, 7, 10-22, 28, and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The reasons for the indicated allowability of the claims are as follows:

The prior art of record does not disclose or suggest wherein the stiff portion is more stiff than at least one of the end portions in combination with all the other elements recited in dependent claim 3 and its parent claim.

Art Unit: 2851

The prior art of record does not disclose or suggest wherein a portion of said at least one supporting member than includes said stiff portion and said at least two pivot points is machined from one piece of material in combination with all the other elements recited in dependent claim 5 and its parent claim.

The prior art of record does not disclose or suggest wherein said at least one supporting element is disposed such that on displacement of said balance mass from an equilibrium position in which said pivot points align vertically, a horizontal force in the direction of the displacement is generated by the action of gravity in combination with all the other elements recited in the parent claim to dependent claim 10.

The prior art of record does not disclose or suggest wherein at least one of said pivot points includes a flexible material in combination with all the other elements recited in the parent claim to dependent claim 17.

The prior art of record does not disclose or suggest wherein said supporting member comprises: a middle section; at least two base frame connecting members pivotally attached at one end to said middle section and at an other end to said base frame; and at least two balance mass connecting members pivotally attached at one end of said middle section and at an other end of said balance mass in combination with all the other elements recited in the parent claim to dependent claim 18.

Art Unit: 2851

The prior art of record does not disclose or suggest wherein said at least one supporting member includes an end portion at one end of the stiff portion and another end portion at another end of the stiff portion, and wherein the stiff portion is more stiff than at least one of the end portions in combination with all the other steps recited in the parent claim to dependent claim 28.

The prior art of record does not disclose or suggest wherein at least one supporting element is disposed such that on displacement of said balance mass from an equilibrium position in which said pivot points align vertically, a horizontal force in the direction of the displacement is generated by the action of gravity, and wherein said supporting said balance mass includes using elastic structure coupled to the balance mass to provide a compensating force opposing the horizontal force in combination with all the other steps recited in the parent claim to dependent claim 31.

Conclusion

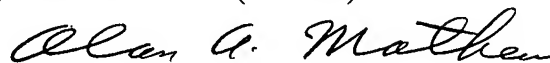
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents on Applicant's PTO 1449 are cited for the same reasons Applicant cited them in his INFORMATION DISCLOSURE STATEMENT. The patent to Kwan '030 is cited to show the U.S. equivalent to EP 1111470.

Art Unit: 2851

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan A. Mathews whose telephone number is (571) 272-2123. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alan A. Mathews
Primary Examiner
Art Unit 2851

AM